



IFWO

RAW SEQUENCE LISTING

DATE: 08/11/2004

PATENT APPLICATION: US/10/613,077

TIME: 15:54:35

Input Set : A:\13510CIP.txt

Output Set: N:\CRF4\08112004\J613077.raw

4 <110> APPLICANT: Leake, Devin
 5 Reynolds, Angela
 6 Khvorova, Anastasia
 7 Marshall, William
 10 <120> TITLE OF INVENTION: Modified Polynucleotides for Use in RNA
 11 Interference
 13 <130> FILE REFERENCE: 13510 CIP
 15 <140> CURRENT APPLICATION NUMBER: 10/613,077
 16 <141> CURRENT FILING DATE: 2003-07-01
 18 <150> PRIOR APPLICATION NUMBER: 10/406,908
 19 <151> PRIOR FILING DATE: 2003-04-02
 21 <160> NUMBER OF SEQ ID NOS: 314
 23 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 25 <210> SEQ ID NO: 1
 26 <211> LENGTH: 21
 27 <212> TYPE: DNA
 28 <213> ORGANISM: Artificial Sequence
 30 <220> FEATURE:
 31 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
 32 3' end
 W--> 34 <221> NAME/KEY: modified_base
 35 <222> LOCATION: (20)...(21)
 36 <223> OTHER INFORMATION: 2' deoxythymidine
 W--> 38 <400> 1
 39 gugaugaug ucagagagut t 21
 41 <210> SEQ ID NO: 2
 42 <211> LENGTH: 21
 43 <212> TYPE: DNA
 44 <213> ORGANISM: Artificial Sequence
 46 <220> FEATURE:
 47 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
 48 3' end
 W--> 50 <221> NAME/KEY: modified_base
 51 <222> LOCATION: (20)...(21)
 52 <223> OTHER INFORMATION: 2' deoxythymidine
 W--> 54 <400> 2
 55 acucucugac auacaucact t 21
 57 <210> SEQ ID NO: 3
 58 <211> LENGTH: 21
 59 <212> TYPE: DNA
 60 <213> ORGANISM: Artificial Sequence
 62 <220> FEATURE:
 63 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at

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```

64      3' end
W--> 66 <221> NAME/KEY: modified_base
67 <222> LOCATION: (20)...(21)
68 <223> OTHER INFORMATION: 2' deoxythymidine
W--> 70 <221> modified_base
71 <222> LOCATION: (1)...(19)
72 <223> OTHER INFORMATION: 2' orthoester
W--> 74 <400> 3
75 gugauguaug ucagagagut t 21
77 <210> SEQ ID NO: 4
78 <211> LENGTH: 21
79 <212> TYPE: DNA
80 <213> ORGANISM: Artificial Sequence
82 <220> FEATURE:
83 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
84      3' end
W--> 86 <221> NAME/KEY: modified_base
87 <222> LOCATION: (20)...(21)
88 <223> OTHER INFORMATION: 2' deoxythymidine
W--> 90 <221> modified_base
91 <222> LOCATION: (1)...(19)
92 <223> OTHER INFORMATION: 2' orthoester
W--> 94 <400> 4
95 acucucugac auacaucact t 21
97 <210> SEQ ID NO: 5
98 <211> LENGTH: 21
99 <212> TYPE: DNA
100 <213> ORGANISM: Artificial Sequence
102 <220> FEATURE:
103 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
104      3' end
W--> 106 <221> NAME/KEY: modified_base
107 <222> LOCATION: (2)...(4)
108 <223> OTHER INFORMATION: phosphorothioate modified internucleotide linkages
W--> 110 <221> modified_base
111 <222> LOCATION: (16)...(18)
112 <223> OTHER INFORMATION: phosphorothioate modified internucleotide linkages
W--> 114 <221> modified_base
115 <222> LOCATION: (20)...(21)
116 <223> OTHER INFORMATION: 2' deoxythymidine
W--> 118 <400> 5
119 acucucugac auacaucact t 21
121 <210> SEQ ID NO: 6
122 <211> LENGTH: 21
123 <212> TYPE: DNA
124 <213> ORGANISM: Artificial Sequence
126 <220> FEATURE:
127 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
128      3' end

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W--> 130 <221> NAME/KEY: modified_base
      131 <222> LOCATION: (2)...(6)
      132 <223> OTHER INFORMATION: phosphorothioate modified internucleotide linkages
W--> 134 <221> modified_base
      135 <222> LOCATION: (14)...(18)
      136 <223> OTHER INFORMATION: phosphorothioate modified internucleotide linkages
W--> 138 <221> modified_base
      139 <222> LOCATION: (20)...(21)
      140 <223> OTHER INFORMATION: 2' deoxythymidine
W--> 142 <400> 6
      143 acucucugac auacaucact t 21
      145 <210> SEQ ID NO: 7
      146 <211> LENGTH: 21
      147 <212> TYPE: DNA
      148 <213> ORGANISM: Artificial Sequence
      150 <220> FEATURE:
      151 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
      152 3' end
W--> 154 <221> NAME/KEY: modified_base
      155 <222> LOCATION: (2)...(7)
      156 <223> OTHER INFORMATION: 2' fluoro
W--> 158 <221> modified_base
      159 <222> LOCATION: 10,12,14,16,17,19
      160 <223> OTHER INFORMATION: 2' fluoro
W--> 162 <221> modified_base
      163 <222> LOCATION: (2)...(6)
      164 <223> OTHER INFORMATION: phosphorothioate modified internucleotide linkages
W--> 166 <221> modified_base
      167 <222> LOCATION: (14)...(18)
      168 <223> OTHER INFORMATION: phosphorothioate modified internucleotide linkages
W--> 170 <221> modified_base
      171 <222> LOCATION: (20)...(21)
      172 <223> OTHER INFORMATION: 2' deoxythymidine
W--> 174 <400> 7
      175 acucucugac auacaucact t 21
      177 <210> SEQ ID NO: 8
      178 <211> LENGTH: 21
      179 <212> TYPE: DNA
      180 <213> ORGANISM: Artificial Sequence
      182 <220> FEATURE:
      183 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
      184 3' end
W--> 186 <221> NAME/KEY: modified_base
      187 <222> LOCATION: 2,5,7,9,11,12,19
      188 <223> OTHER INFORMATION: 2' amino
W--> 190 <221> modified_base
      191 <222> LOCATION: (20)...(21)
      192 <223> OTHER INFORMATION: 2' deoxythymidine
W--> 194 <400> 8

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195 gugauguaug ucagagagut t 21
197 <210> SEQ ID NO: 9
198 <211> LENGTH: 21
199 <212> TYPE: DNA
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202 <220> FEATURE:
203 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
204 3' end
--> 206 <221> NAME/KEY: modified_base
207 <222> LOCATION: (2)...(6)
208 <223> OTHER INFORMATION: 2' amino
--> 210 <221> modified_base
211 <222> LOCATION: (20)...(21)
212 <223> OTHER INFORMATION: 2' deoxythymidine
--> 214 <400> 9
215 acucucugac auacaucact t 21
217 <210> SEQ ID NO: 10
218 <211> LENGTH: 21
219 <212> TYPE: DNA
220 <213> ORGANISM: Artificial Sequence
222 <220> FEATURE:
223 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
224 3' end
--> 226 <221> NAME/KEY: modified_base
227 <222> LOCATION: (2)...(18)
228 <223> OTHER INFORMATION: phosphorothioate modified internucleotide linkages
--> 230 <221> modified_base
231 <222> LOCATION: (20)...(21)
232 <223> OTHER INFORMATION: 2' deoxythymidine
--> 234 <400> 10
235 gugauguaug ucagagagut t 21
237 <210> SEQ ID NO: 11
238 <211> LENGTH: 21
239 <212> TYPE: DNA
240 <213> ORGANISM: Artificial Sequence
242 <220> FEATURE:
243 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
244 3' end
--> 246 <221> NAME/KEY: modified_base
247 <222> LOCATION: (2)...(18)
248 <223> OTHER INFORMATION: phosphorothioate modified internucleotide linkages
--> 250 <221> modified_base
251 <222> LOCATION: (0)...(0)
252 <223> OTHER INFORMATION: 2' deoxythymidine
--> 254 <400> 11
255 acucucugac auacaucact t 21
257 <210> SEQ ID NO: 12
258 <211> LENGTH: 21
259 <212> TYPE: DNA

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260 <213> ORGANISM: Artificial Sequence
262 <220> FEATURE:
263 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
264     3' end
V--> 266 <221> NAME/KEY: modified_base
267 <222> LOCATION: (2)...(6)
268 <223> OTHER INFORMATION: phosphorothioate modified internucleotide linkages
V--> 270 <221> modified_base
271 <222> LOCATION: (14)...(18)
272 <223> OTHER INFORMATION: phosphorothioate modified internucleotide linkages
V--> 274 <221> modified_base
275 <222> LOCATION: (20)...(21)
276 <223> OTHER INFORMATION: 2' deoxythymidine
V--> 278 <400> 12
279 acucucugac auacaucact t 21
281 <210> SEQ ID NO: 13
282 <211> LENGTH: 21
283 <212> TYPE: DNA
284 <213> ORGANISM: Artificial Sequence
286 <220> FEATURE:
287 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
288     3' end
V--> 290 <221> NAME/KEY: modified_base
291 <222> LOCATION: 2,5,7,9,11,19
292 <223> OTHER INFORMATION: 2'- O-methyl
V--> 294 <221> modified_base
295 <222> LOCATION: (20)...(21)
296 <223> OTHER INFORMATION: 2' deoxythymidine
V--> 298 <400> 13
299 gugauguaug ucagagagut t 21
301 <210> SEQ ID NO: 14
302 <211> LENGTH: 21
303 <212> TYPE: DNA
304 <213> ORGANISM: Artificial Sequence
306 <220> FEATURE:
307 <223> OTHER INFORMATION: RNA/DNA, synthetic, RNA with 2'deoxythymidines at
308     3' end
V--> 310 <221> NAME/KEY: modified_base
311 <222> LOCATION: 2,3,4,5,6,12,14,16,17,19
312 <223> OTHER INFORMATION: 2' omethyl
V--> 314 <221> modified_base
315 <222> LOCATION: (20)...(21)
316 <223> OTHER INFORMATION: 2' deoxythymidine
V--> 318 <400> 14
319 acucucugac auacaucact t 21
321 <210> SEQ ID NO: 15
322 <211> LENGTH: 21
323 <212> TYPE: DNA
324 <213> ORGANISM: Artificial Sequence

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Input Set : A:\13510CIP.txt

Output Set: N:\CRF4\08112004\J613077.raw

L:34 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:38 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:1
L:50 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:54 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:2
L:66 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:70 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:74 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:3
L:86 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:90 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:94 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:4
L:106 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:110 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:114 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:118 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5
L:130 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:134 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6
L:138 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:6
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L:154 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:158 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:162 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:166 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:170 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:174 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:7
L:186 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:190 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:8
L:194 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:8
L:206 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:210 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:9
L:214 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:9
L:226 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:230 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:10
L:234 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:10
L:246 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:250 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:11
L:254 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:11
L:266 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:270 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:12
L:274 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:12
L:278 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:12
L:290 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:294 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:13
L:298 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:13
L:310 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:314 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:14
L:318 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:14
L:330 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:334 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:15

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Input Set : A:\13510CIP.txt

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L:338 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:15
L:350 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:354 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:16
L:358 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:16
L:370 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:374 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17
L:378 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:17
L:390 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:394 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:18
L:406 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:410 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:19
L:422 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:426 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:20
L:430 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:20
L:442 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:446 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:21
L:450 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:21
L:454 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:21
L:466 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:470 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:22
L:474 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:22
L:478 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:22
L:490 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:494 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:23
L:498 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:23
L:514 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:534 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:554 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
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L:594 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:614 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:634 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:654 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:674 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:694 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:714 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:732 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:752 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:772 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:792 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:812 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:832 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:852 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:872 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:892 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:912 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:932 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:952 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:972 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!

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L:1012 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!
L:1032 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!